# Installation Business Management In Action

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**Penn State University, August 2004**

# Operations Management:

## Tools and Concepts

# How Do Our Management Tools Relate to Each Other?

**Flows both ways**

| Strategy Development And Refinement | Strategic Management | Operations Management | Business Transactions |
|---|---|---|---|
| • Mission<br>• Vision<br>• Strategy | • Balanced Scorecard<br>• Strategic Performance Measures | • ABC/M<br>• Process Management<br>• Operational Performance Measures | • SABRS<br>• MAXIMO<br>• SLDCADA |

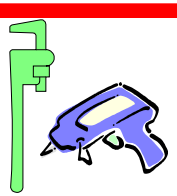
# Tying It All Together: Using ABC/M and the Balanced Scorecard to Manage Operational Performance

- **The Operational Performance Equation:**

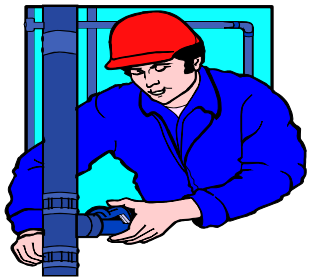
  **Cost: OPERATIONAL PERFORMANCE**

- **Use ABC/M and Process Management to Reduce Cost While Improving Performance**

# Activity Based Concepts



Skill level of workers
Policies
Union issues
Age of pipes/fixtures
Quality of available tools



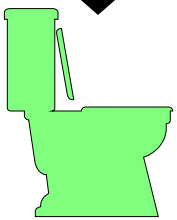
Repair Plumbing

Cycle time per plumbing repair
Process time per plumbing repa

# of repeat breakdowns

Total cost to repair plumbing
Cost per plumbing repair

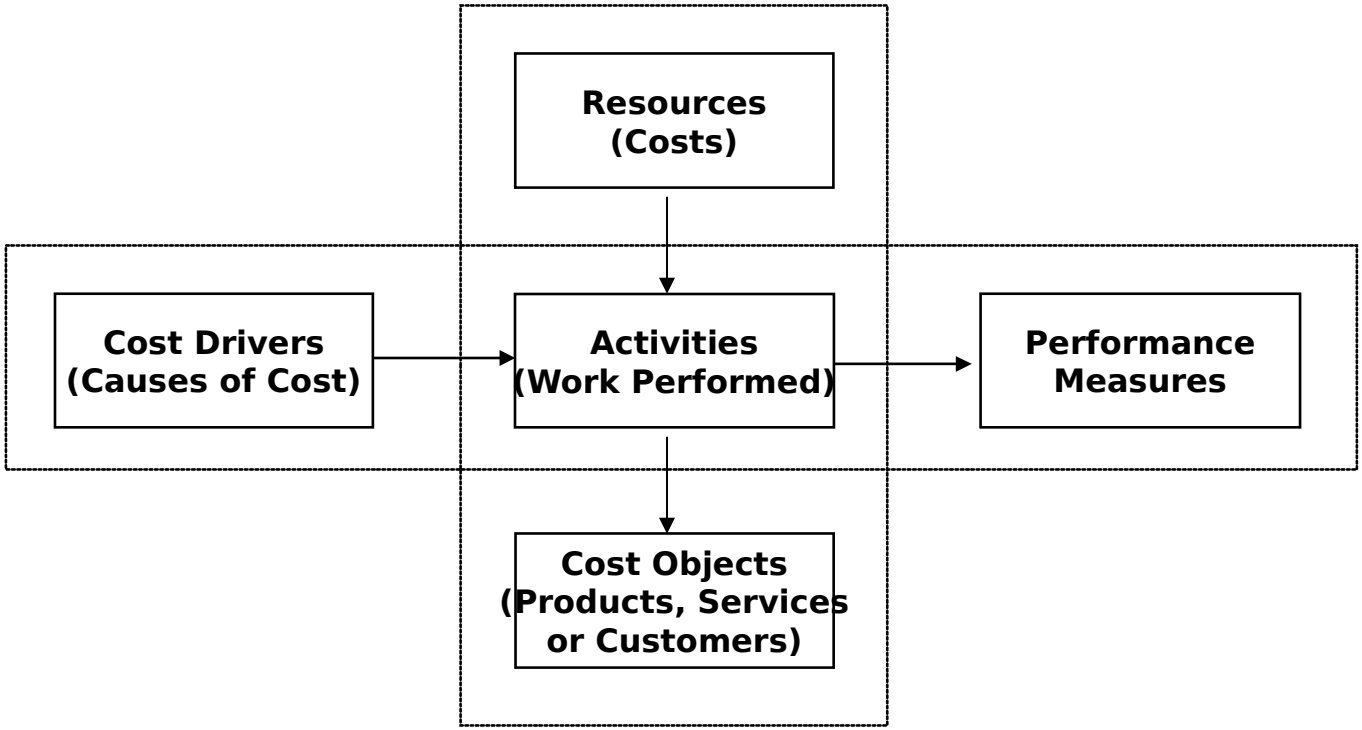
Grounds Crew



Barracks

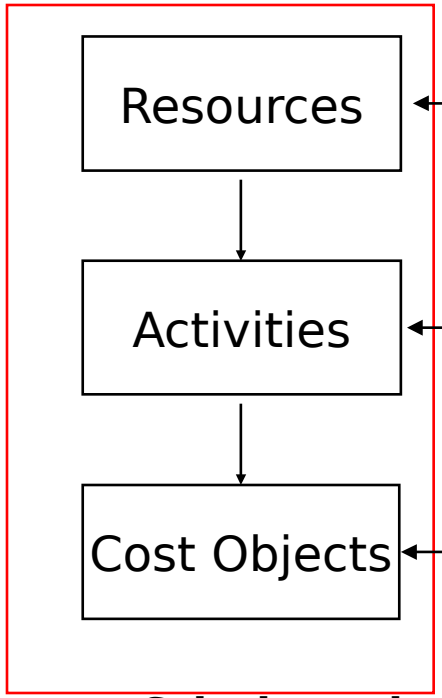
Family Housing

# The CAM-I Cross




**The CAM-I Cross**
**CAM-I (Consortium for Advanced Manufacturing-International)**

# Activity Based Costing



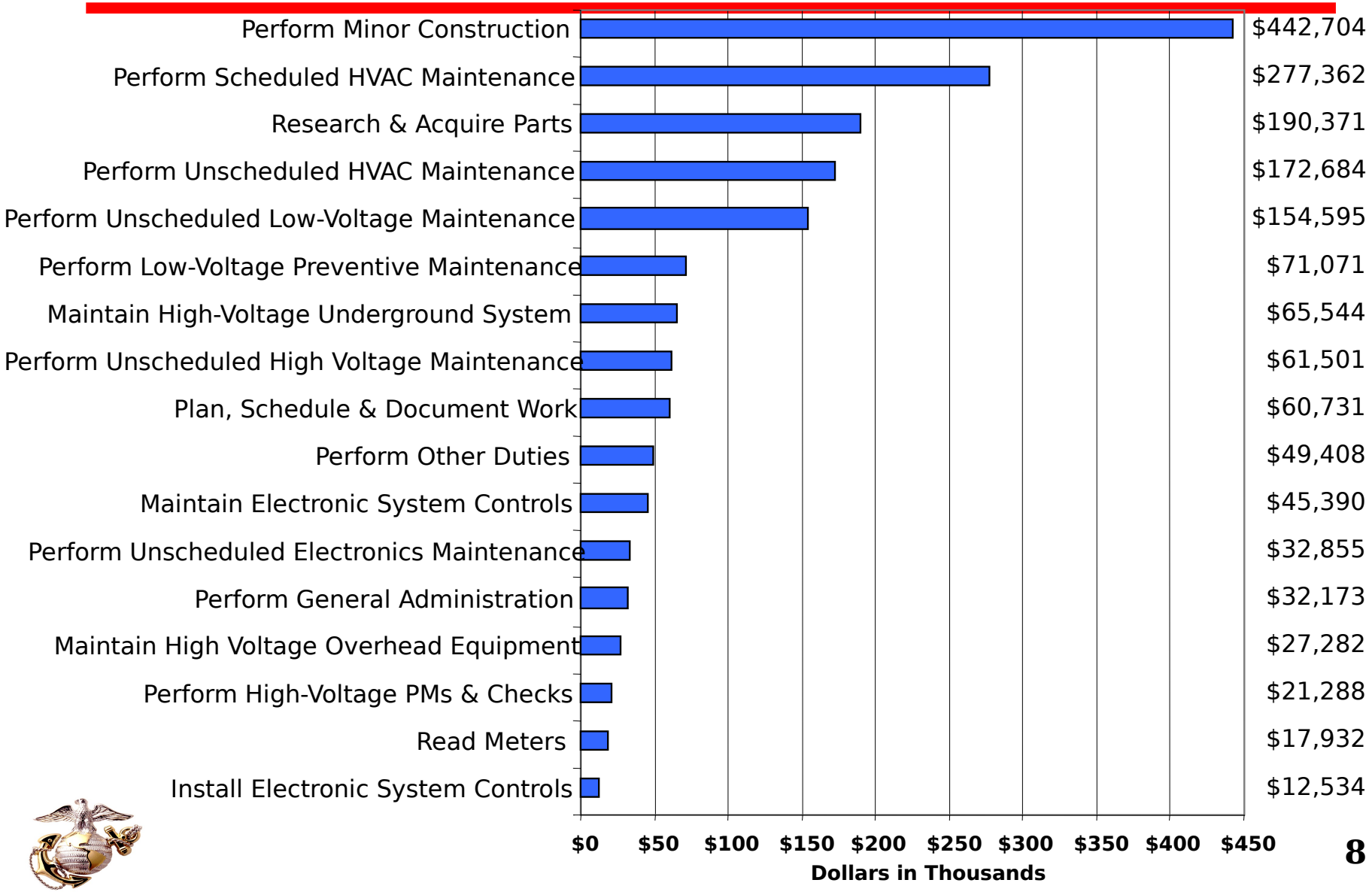

Anything required to perform work.

The work performed.

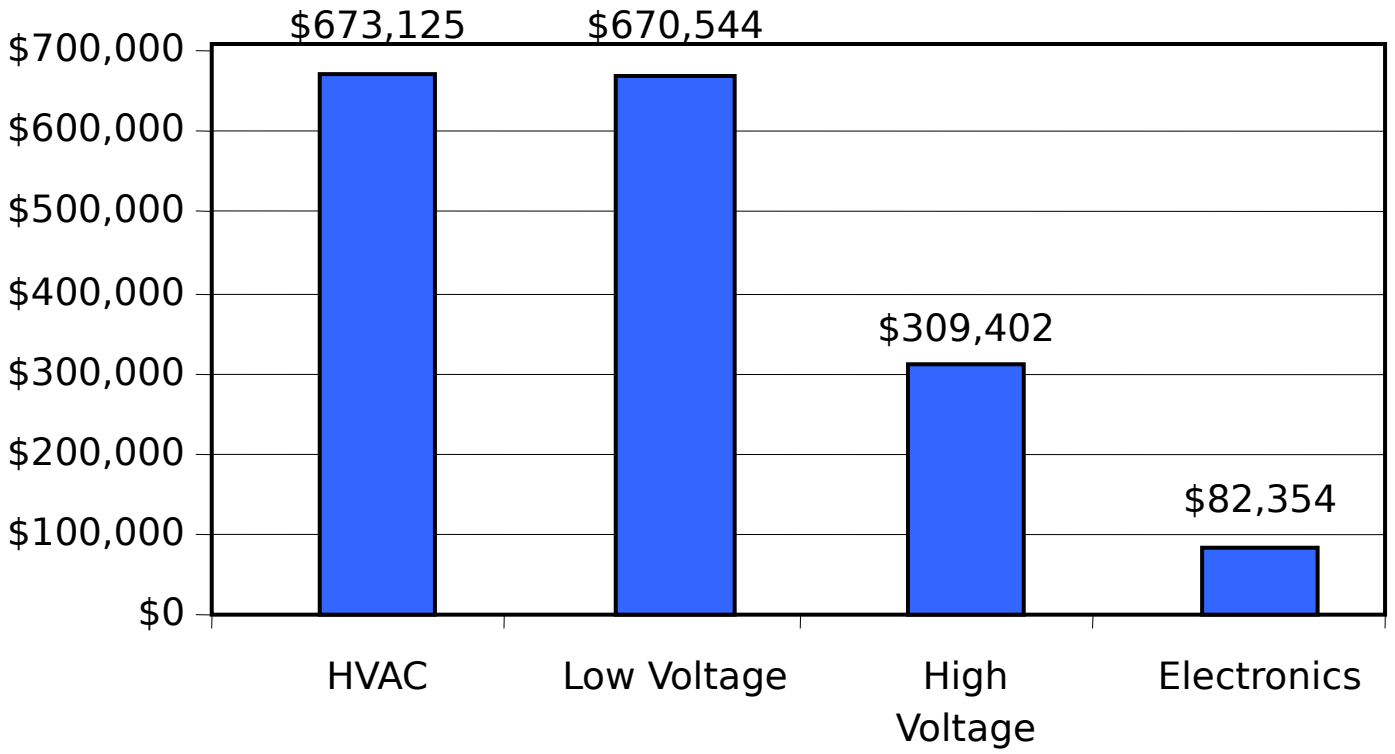
What the work produces or provides.

- Calculates the cost of things (activities, processes, products, services, customers).
- Identifies the activities or processes performed for specific products, service or customers.
- The focus of ABC is usually on cost objects.
- Is focused on doing the math.

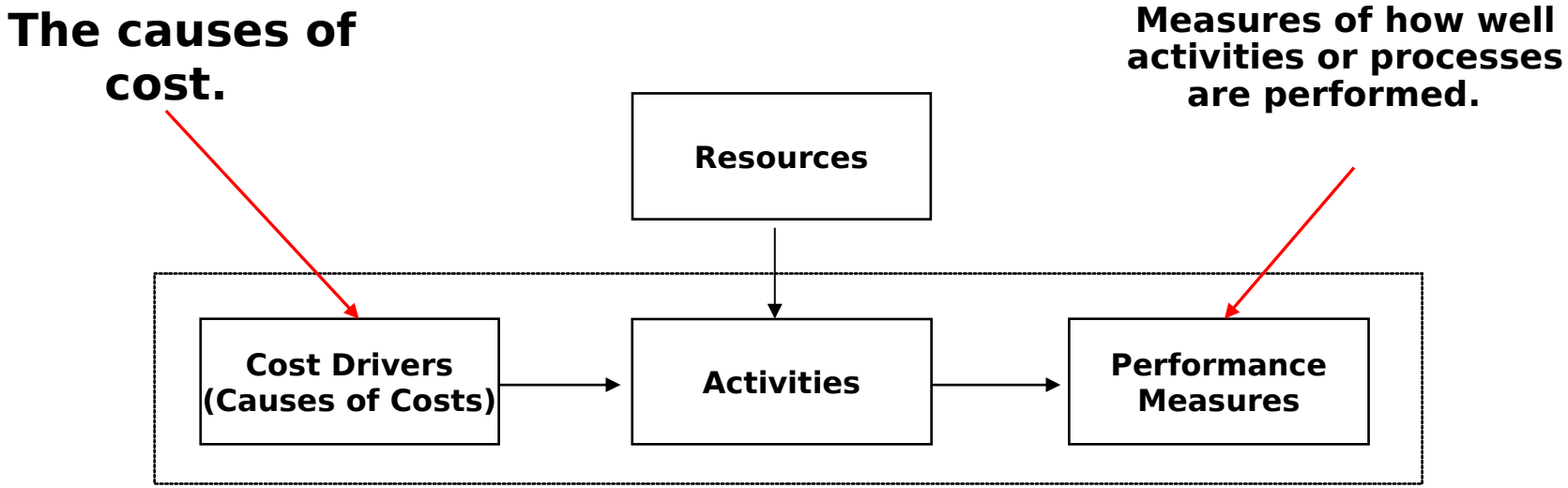
# Cost of Activities – Electrical Trades



# Cost of Services – Electrical Trades

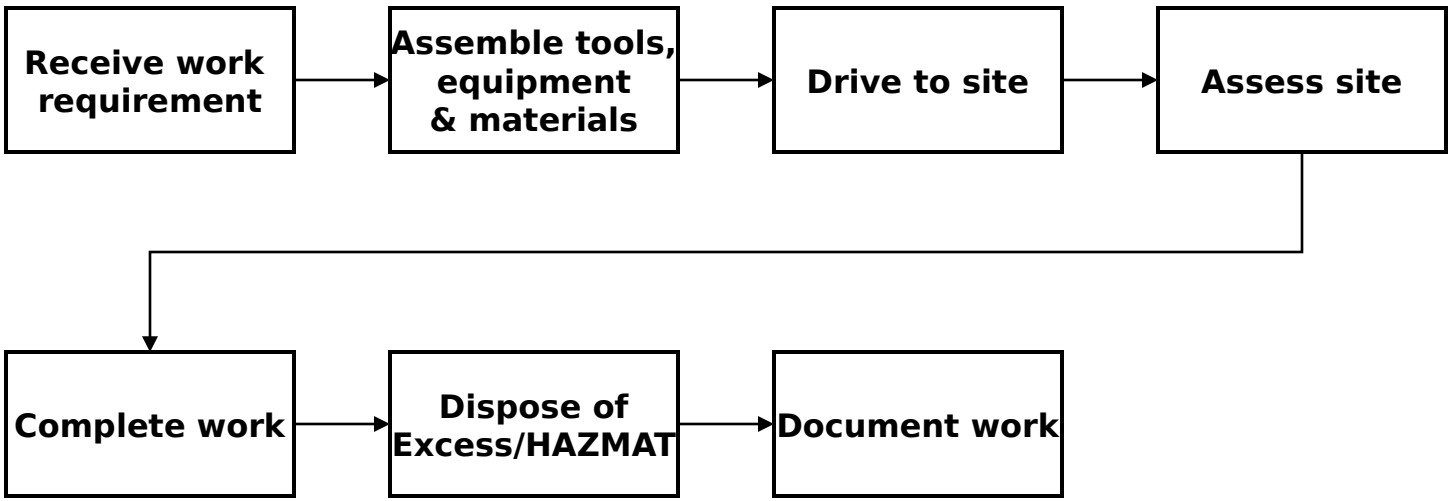


# Activity Based Management

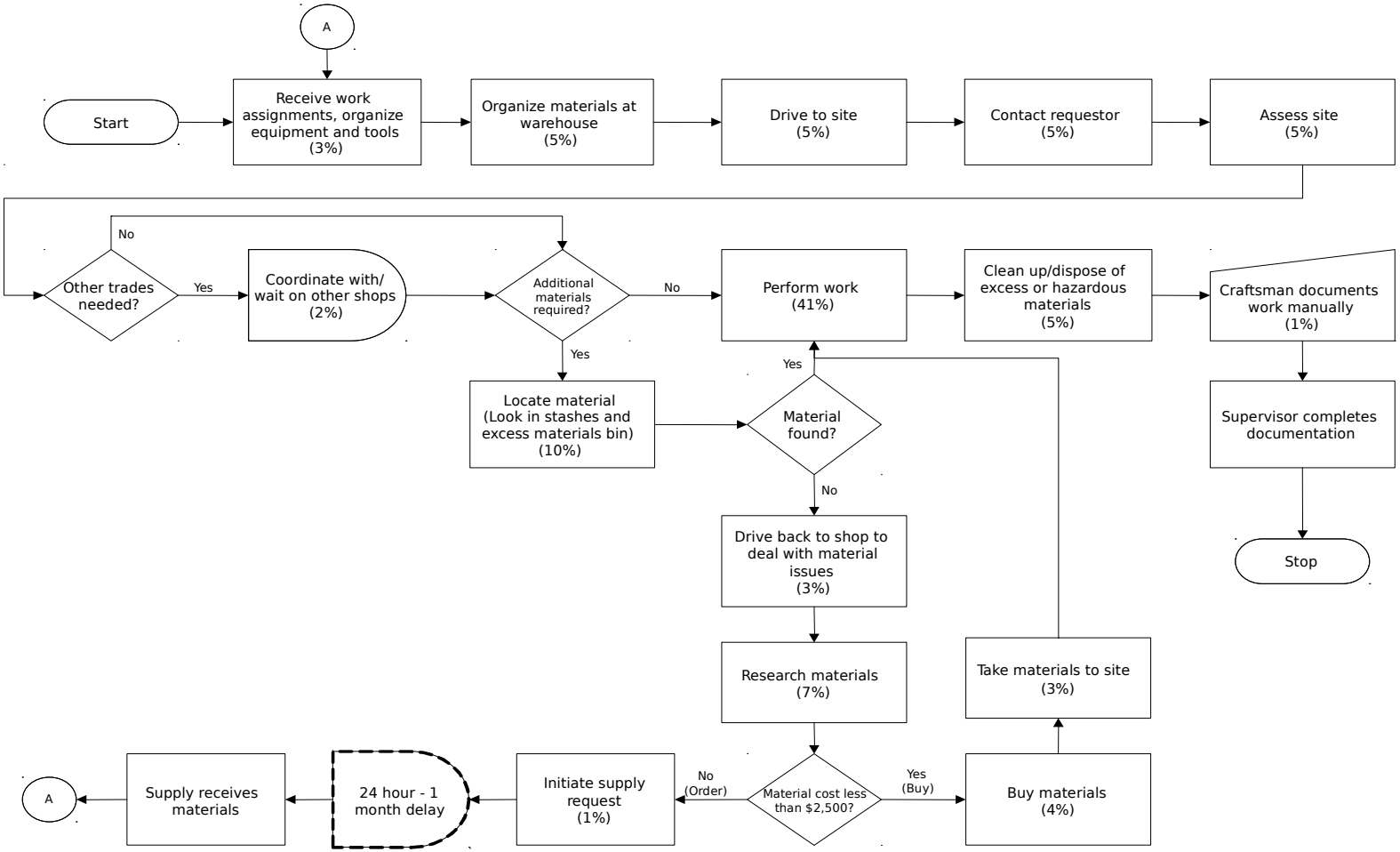



- Is focused on using the math to support continuous improvement.
- Uses activity information to drive decisions regarding how to make appropriate changes.
- Tools and techniques include process mapping, attribute analysis, cost driver analysis, and process analysis and streamlining.

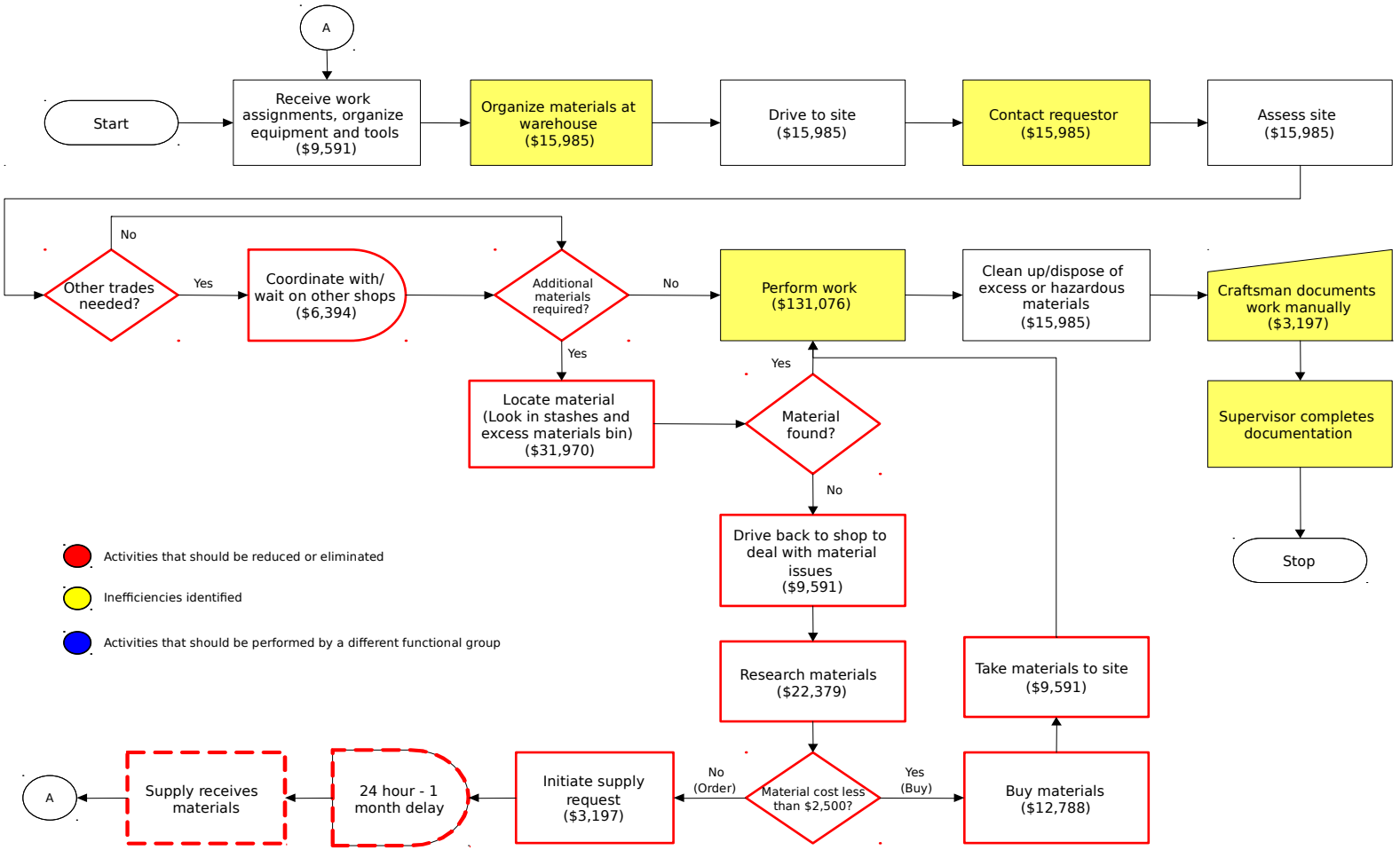
# The Basic Process



# (Minor Construction – Electrical Trades)



# Detailed Analysis (Minor Construction – Electrical Trades)




**Labor Costs - $319,698**

# Summary of Costs for Four Trade Areas

| Activity | Total Cost | % of Total Cost | Minutes/Hrs per day | |
|---|---|---|---|---|
| Receive work assignment/organize tools, equipment | $206,350 | 4.2% | 19 | minutes |
| Delays at shop or warehouse | $92,315 | 1.9% | 8 | minutes |
| Drive to site | $258,345 | 5.3% | 24 | minutes |
| Contact requestor | $105,789 | 2.2% | 10 | minutes |
| Assess site | $180,784 | 3.7% | 17 | minutes |
| Delays prior to work | $167,902 | 3.4% | 15 | minutes |
| Locate materials | $333,176 | 6.8% | 30 | minutes |
| Drive back to shop for material issues | $117,191 | 2.4% | 11 | minutes |
| Research materials | $125,494 | 2.6% | 11 | minutes |
| Buy materials | $128,088 | 2.6% | 12 | minutes |
| Take materials to site | $72,786 | 1.5% | 7 | minutes |
| Perform work | $2,829,392 | 57.5% | 4.3 | hours |
| Dispose of excess/hazardous materials | $142,542 | 2.9% | 13 | minutes |
| Clean equipment/shop | $38,808 | 0.8% | 4 | minutes |
| Document work | $47,451 | 1.0% | 4 | minutes |
| Order materials/initiate supply request | $73,938 | 1.5% | 7 | minutes |
| | $4,920,351 | 100.0% | 450 | minutes per day (7.5 hours) |

# Cost Driver Analysis

Activity/Task: Contact requestor

Total Cost: $105,800

Issue: 40% of the time spent on this activity is wasted

| Cost Driver | % | Dollar Impact |
|---|---|---|
| Incorrect information on work order | 65% | $27,500 |
| Ineffective building manager program | 35% | $14,800 |
| | 100% | $42,300 |

# Cost Driver Summary

| Cost Driver | Total Cost per Cost Driver | % of Cost |
|---|---|---|
| Poor coordination, scheduling or P&E | $514,641 | 33.2% |
| No shop stock allowed | $506,770 | 32.7% |
| Lack of training/knowledge/communication | $176,092 | 11.4% |
| Contractor issues | $155,590 | 10.0% |
| Incorrect/incomplete information on work order | $140,773 | 9.1% |
| No communication technology | $56,457 | 3.6% |
| | **$1,550,323** | **100.0%** |

# How Do We Use This Information?

## Using the Tools to Improve Support While Reducing Cost

# Installation Process Model
# Standard Business Management Categories

**Facilities and Land Management**

- Provide Real Property Services and Land Mgmt
- Provide Facilities Services
- Sustain, Restore, and Mod Facilities
- Provide Utilities
- Provide Environmental Services
- Provide Housing

**Community Services**

- Develop Family Readiness
- Provide Recreational Opportunities
- Develop Physical Wellness
- Provide Personal Support Services
- Provide Retail/Resale Goods and Services
- Provide Lodging Services
- Provide Information and Referral Services
- Provide Personal and Professional Development

**Security and Safety**

- Manage Safety Programs
- Provide Security
- Provide Fire Protection and Emergency Services

**Command and Staff**

- Provide Legal Counsel and Services
- Provide Command Support
- Manage Community Relations
- Provide Religious Support
- Manage Financial Resources
- Manage Business Practices
- Provide Personnel Support

**Information Management**

- Provide Voice
- Provide Data Services
- Provide Audio/Video / Visual
- Provide Ground Electronic Maintenance

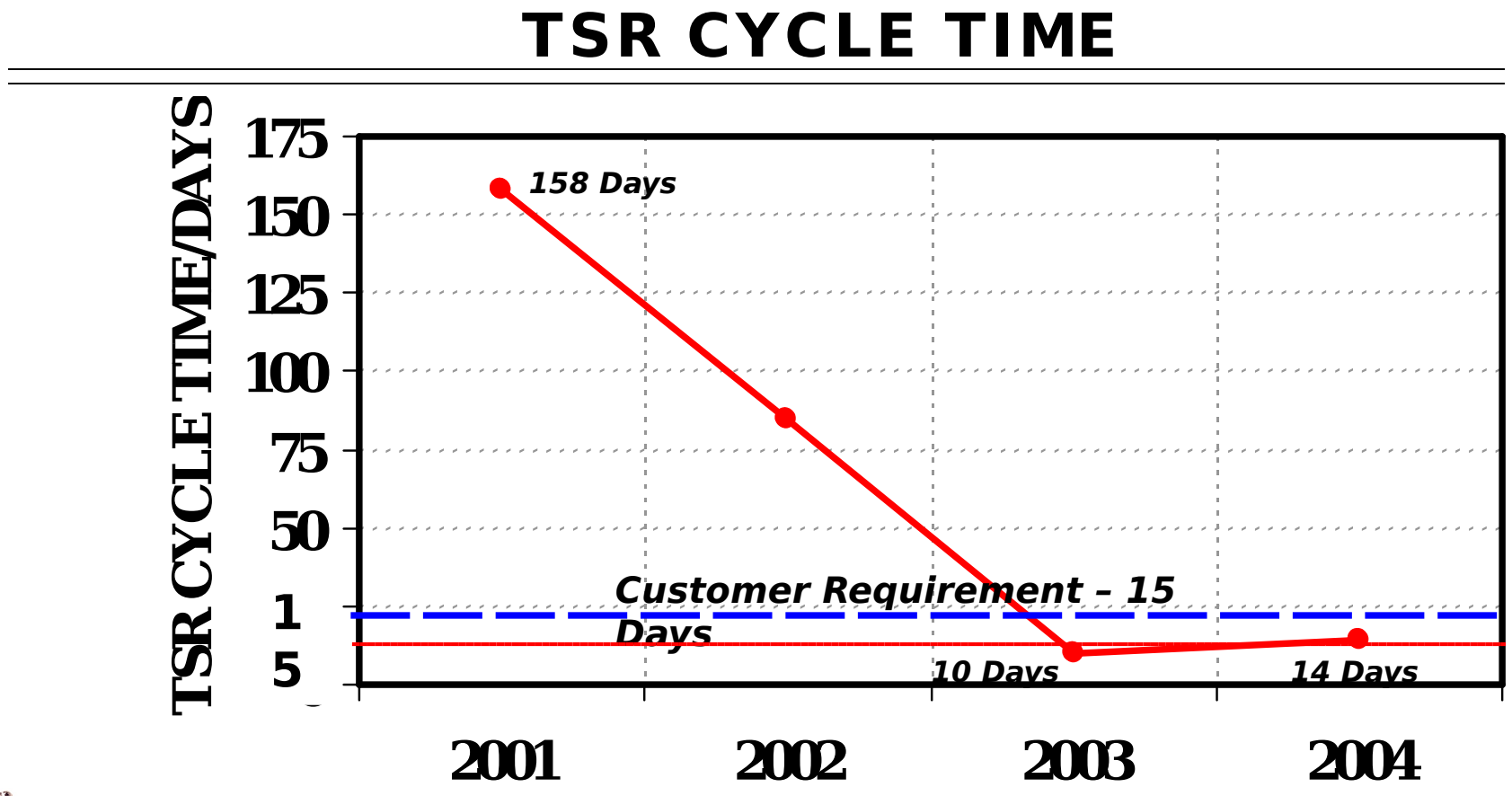
**Logistics Support**

- Provide Transportation
- Provide Supply Services
- Provide Procurement Services
- Provide Food Services

**Training and Operations**

- Provide Military Training
- Provide Civilian Training
- Provide Aviation Operation Support
- Provide Range Management
- Provide Simulation Support

# Operational Performance Example: Provide Voice Process



# Process Management – No Silver Bullet

- **Generally, there is no single "fix" to a process that will totally eliminate error and waste.**
- **It usually requires several fixes to dramatically improve a process.**
- **In case of Provide Voice process it required:**

  **➔ Supply system waiver** **➔ Civilianize P/Es**

  **➔ One man – one vehicle** **➔ Targeted infrastructure modernization**

  **➔ Increased tools/parts on trucks ➔ Restock trucks at night**

  **➔ More training** **➔ Manage work by radio**

  **➔ Supervisor = work expediter figured night** **➔ Routes/assignments before**

- **Also, operational performance metrics were reviewed weekly to track improvements.**

# Provide Voice Process Example – con't

- **Add ABC Cost Info to the Equation:**

**Cost**
**Performance** **$542,158 : 14 days cycle time > 10 days**

- **Objective is to reduce cost while maintaining or improving operational performance.**

- **This cost and performance information is helping us protect our customers from the effect of budget reductions.**

# Installation Process Model
# Standard Business Management Categories

| Facilities and Land Management | Community Services | Security and Safety | Command and Staff | Information Management | Logistics Support | Training and Operations |
|---|---|---|---|---|---|---|
| Provide Real Property Services and Land Mgmt | Develop Family Readiness | Manage Safety Programs | Provide Legal Counsel and Services | Provide Voice | Provide Transportation | Provide Military Training |
| Provide Facilities Services | Provide Recreational Opportunities | Provide Security | Provide Command Support | Provide Data Services | Provide Supply Services | Provide Civilian Training |
| Sustain, Restore, and Mod Facilities | Develop Physical Wellness | Provide Fire Protection and Emergenc y Services | Manage Community Relations | Provide Audio/Video / Visual | Provide Procurement Services | Provide Aviation Operation Support |
| Provide Utilities | Provide Personal Support Services | | Provide Religious Support | Provide Ground Electronic Maintenanc e | Provide Food Services | Provide Range Management |
| Provide Environment al Services | Provide Retail/Resale Goods and Services | | Manage Financial Resources | | | Provide Simulation Support |
| Provide Housing | Provide Lodging Services | | Manage Business Practices | | | |
| | Provide Information and Referral Services | | Provide Personnel Support | | | |
| | Provide Personal and Professional Development | | | | | |

# Provide Transportation Process: GME Fleet Support

- **During A-76 Study, used process management to greatly reduce cost per mile while maintaining fleet availability.**

| | Cost Per Mile | Operational Performance |
|---|---|---|
| FY02 | $0.72 | 98% Fleet Readiness |
| FY03 | $0.34 | 98.6% Fleet Readiness |
| FY04 | $0.45 | 97% Fleet Readiness |

- **Set the same standard in the A-76 Performance Work Statement.**

# Installation Process Model
# Standard Business Management Categories

| Facilities and Land Management | Community Services | Security and Safety | Command and Staff | Information Management | Logistics Support | Training and Operations |
|---|---|---|---|---|---|---|
| Provide Real Property Services and Land Mgmt | Develop Family Readiness | Manage Safety Programs | Provide Legal Counsel and Services | Provide Voice | Provide Transportation | Provide Military Training |
| Provide Facilities Services | Provide Recreational Opportunities | Provide Security | Provide Command Support | Provide Data Services | Provide Supply Services | Provide Civilian Training |
| Sustain, Restore, and Modernize Facilities | Develop Physical Wellness | Provide Fire Protection and Emergenc y Services | Manage Community Relations | Provide Audio/Video / Visual | Provide Procurement Services | Provide Aviation Operation Support |
| Provide Utilities | Provide Personal Support Services | | Provide Religious Support | Provide Ground Electronic Maintenanc e | Provide Food Services | Provide Range Management |
| Provide Environment al Services | Provide Retail/Resale Goods and Services | | Manage Financial Resources | | | Provide Simulation Support |
| Provide Housing | Provide Lodging Services | | Manage Business Practices | | | |
| | Provide Information and Referral Services | | Provide Personnel Support | | | |
| | Provide Personal and Professional Development | | | | | |

Measure - ISD.F4.M 8 Avg Emergency Shop Rpr Order Cost - Microsoft Internet Explorer provided by Marine Corps Systems Command

File Edit View Favorites Tools Help

## Element Properties

| | | | |
|---|---|---|---|
| **Element Name:** | ISD.F4.M 8 Avg Emergency Shop Rpr (Rename) | | Delete Element |
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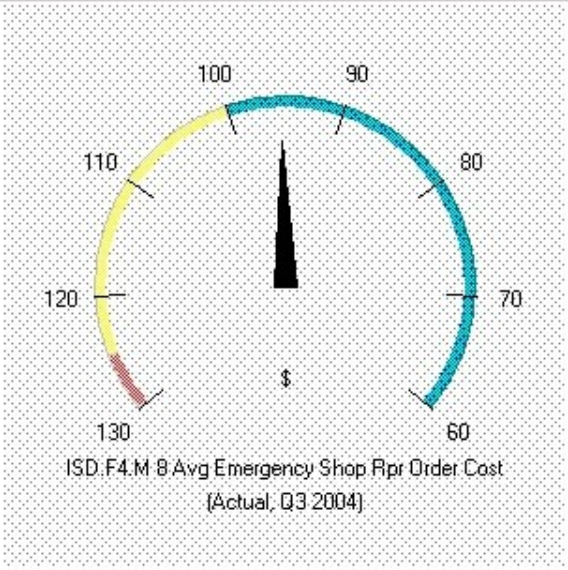
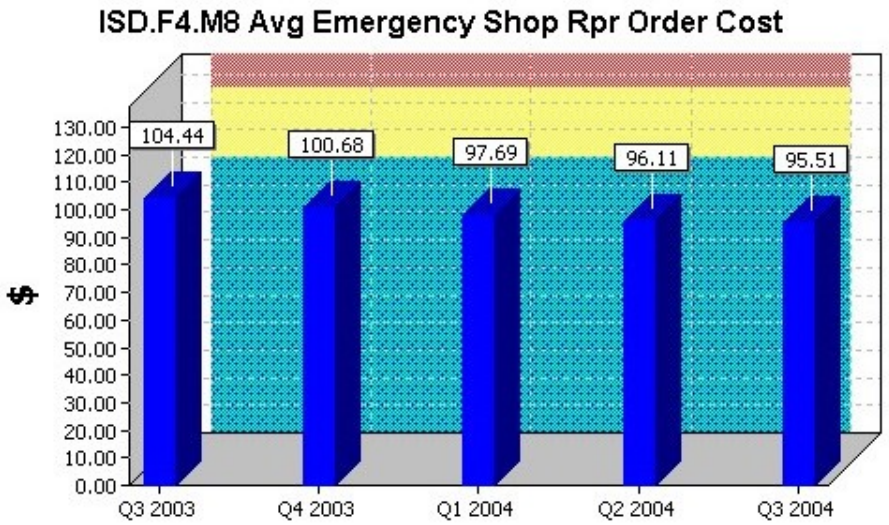
| **Description:** | | | |

## Indicator and History Chart




## View Settings

| | | | |
|---|---|---|---|
| ☑ Show Indicator | | ☑ Show History Chart | |
| Indicator period: | Latest | Graph period level | Quarter |
| Indicator series: | Actual | Graph period: | Q3 2003 → Q3 2004 |
| | | Graph series: | Actual |

## Assign Value

| | |
|---|---|
| **Period:** | Q4 2004 |
| **Series:** | Actual |
| **Value:** | Submit |

Start | Microsoft Ex... | QPR Portal - ... | QPR ScoreC... | Microsoft Po... | Document1 -... | Measure - I... | 2:27 PM

Measure - IS.I1.M 1 % Emergency Svc Calls Mtg Target Response Time - Microsoft Internet Explorer provided by Marine Corps Syste

File Edit View Favorites Tools Help

## Element Properties

| | | | |
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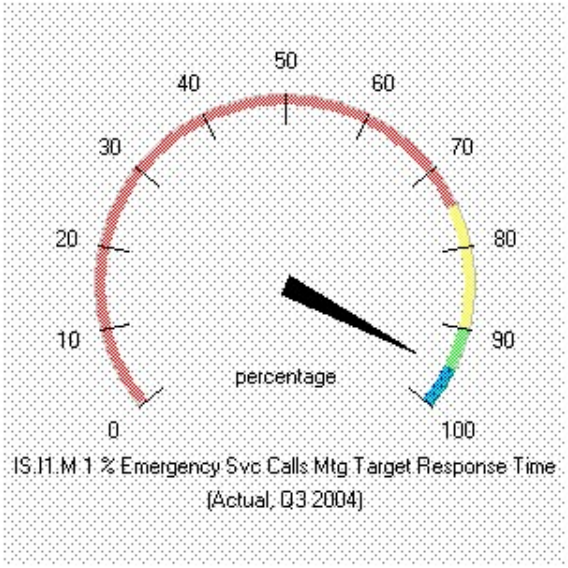
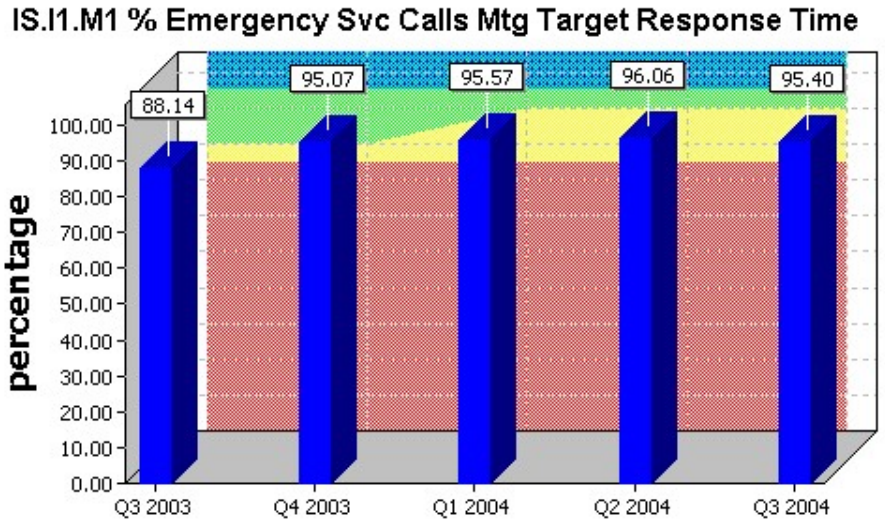
| **Scorecard:** | Installation Svcs | **Element Type:** | Measure |
| **Value:** | 95.40 percentage | **In Charge:** | I&E/Instal Svcs Dir |
| **Description:** | Emergency Service Tickets Logged into MAXIMO, I&E, Base Maintenance, Requiring Immediate Repair/Response Goal is same day response | | |

## Indicator and History Chart




## View Settings

| | | | |
|---|---|---|---|
| ☑ Show Indicator | | ☑ Show History Chart | |
| Indicator period: | Latest | Graph period level | Quarter |
| Indicator series: | Actual | Graph period: | Q3 2003 → Q3 2004 |
| | | Graph series: | Actual |

## Assign Value

| | |
|---|---|
| **Period:** | Q4 2004 |
| **Series:** | Alarm |
| **Value:** | [Submit] |

Start | Microso... | QPR Po... | QPR Sc... | Microso... | Docum... | Measur... | Measur... | Measu... | 2:35 PM

Measure - ISD.F4.M 7 Avg Routine Shop Rpr Order Cost - Microsoft Internet Explorer provided by Marine Corps Systems Command

File Edit View Favorites Tools Help

## Element Properties

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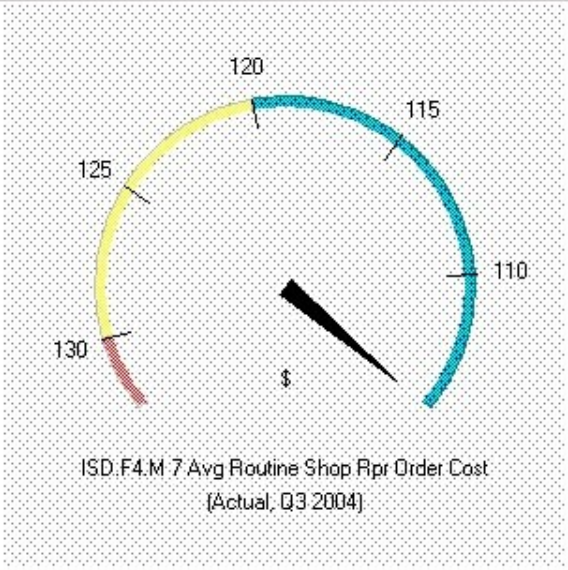
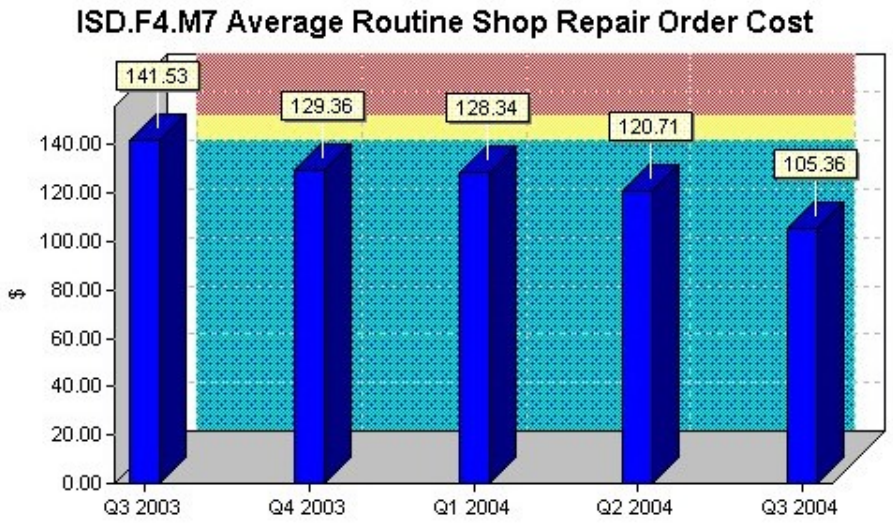
| **Element Name:** | ISD.F4.M 7 Avg Routine Shop Rpr Ord Rename | | Delete Element |
| **Scorecard:** | Installation Svcs | **Element Type:** | Measure |
| **Value:** | 105.36 $ | **In Charge:** | I&E/Instal Svcs Dir |
| **Description:** | Sum of dollars assigned to upgrade Category 3 & 4 to at least Category 2. | | |

## Indicator and History Chart




## View Settings

## Assign Value

| | |
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| **Series:** | Actual |
| **Value:** | Submit |

Start | Microsoft ... | QPR Port... | QPR Scor... | Microsoft ... | Documen... | Measure ... | Measure... | 2:29 PM

Measure - IS.I1.M 1A % Routine Svc Calls Mtg Target Response Time - Microsoft Internet Explorer provided by Marine Corps System

File Edit View Favorites Tools Help

## Element Properties

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|---|---|---|---|
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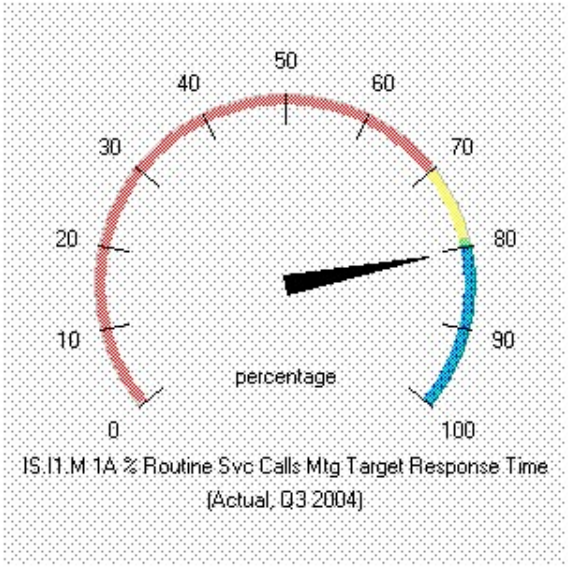
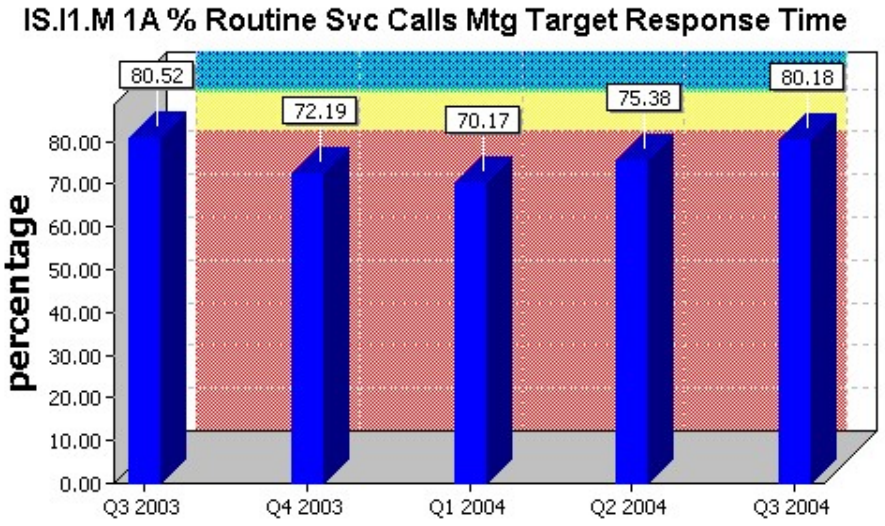
| **Scorecard:** | Installation Svcs | **Element Type:** | Measure |
| **Value:** | 80.18 percentage | **In Charge:** | I&E/Instal Svcs Dir |
| **Description:** | Routine Service Tickets logged into MAXIMO, I&E, Base Maintenance, that are routine in nature. Goal is to complete within 14 days of being called in. | | |

## Indicator and History Chart




## View Settings

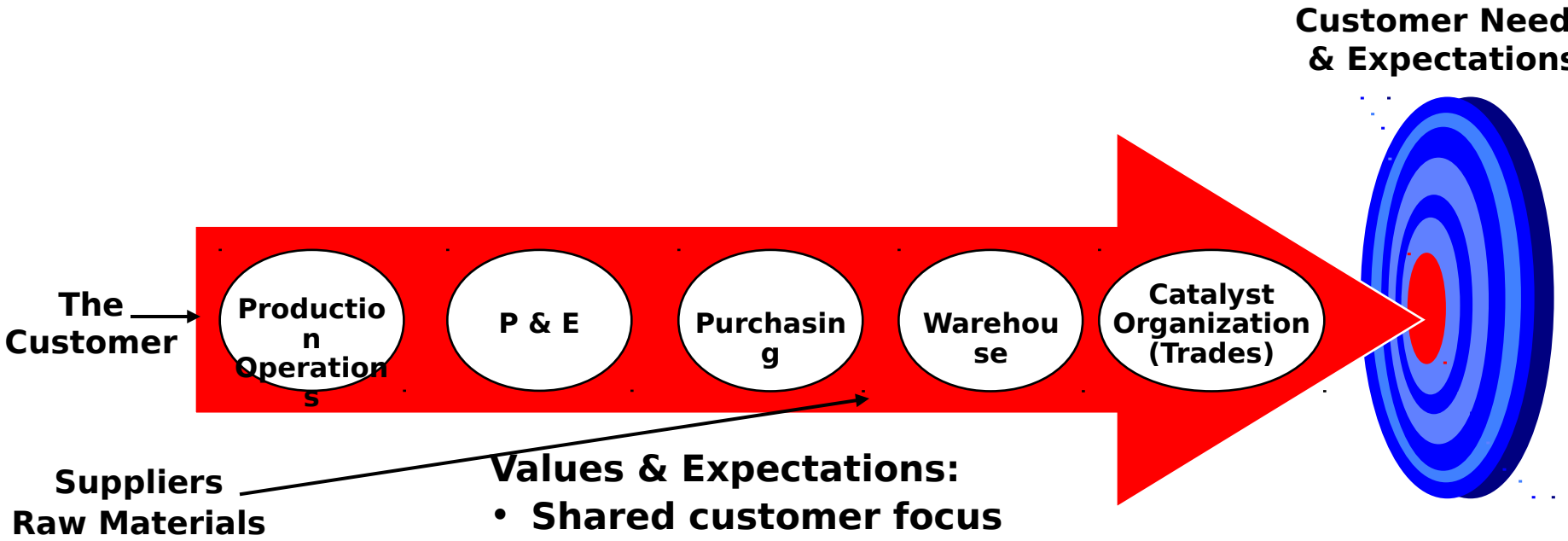
| | | | |
|---|---|---|---|
| ☑ Show Indicator | | ☑ Show History Chart | |
| Indicator period: | Latest | Graph period level | Quarter |
| Indicator series: | Actual | Graph period: | Q3 2003 → Q3 2004 |
| | | Graph series: | Actual |

## Assign Value

| | |
|---|---|
| **Period:** | Q4 2004 |
| **Series:** | Alarm |
| **Value:** | Submit |

Start | Micro... | QPR ... | QPR ... | Micro... | Docu... | Meas... | Meas... | Meas... | Meas... | 2:37 PM

# The CAM-I Extended Enterprise Model




**Values & Expectations:**

- **Shared customer focus**
- **Mutual long-term commitment**
- **Aligned vision**
- **Cooperation and trust**
- **Leveraged competencies and shared knowledge**
- **Effective and open communication**
- **Continuous improvement**
- **Common measures of success**

***Beyond the Moment: The Key to Renewable Competitive Advantage,***
**R. Boykin, et. al., CAM-I**

# Managing the Components of the Enterprise to Improve Support and Reduce Costs

- Many components of a Base Operation are dependent on timely and accurate delivery of materials and supplies to accomplish work
- This is a critical mission enabler for the facilities maintenance function to be competitive in an A-76 environment
- Maintenance and repair response time targets cannot be met without high quality supply support
- However, the Government supply system is often cumbersome, unresponsive, and unable to provide the required level of

# THE USMC – GSA Partnership

**“Partner with outside agencies to leverage efforts and resources to support the development of common logistics requirements and capabilities.”**

USMC Logistics Campaign Plan - 2002

# The USMC – GSA Partnership - continued

- A best practice in supply chain management is to establish strong, on-going partnerships with suppliers
- Partnered with GSA to take over ownership of Base Supply Store and also establish a Super Hardware Store
- The Base still owns/manages the store but GSA owns and manages the inventory
- GSA owns the inventory until it is sold and provides an automated PoS system that interfaces with SABRS and MAXIMO
- GSA guarantees 100% availability of “daily-use” parts and materials and timely delivery of items that are not needed immediately

# The Benefits

- **100% real time availability of required parts and materials for the Facilities Maintenance function**
- **Reduced prices due to volume buying**
- **Reduction in USMC inventory ownership costs (-$12M in NWCF)**
- **Reduction of on-base inventory footprint**
- **Free IT support valued at several $100K**

# Performance Metrics To Measure Program

- **Following are Balanced Scorecard Metrics for this initiative**
  - **Reduction in dollar value of USMC-owned inventory**
  - **Percent of inventory that is USMC owned**
  - **NIS rate for Main Store and Hardware Store**
  - **PALT for 1-3 day delivery items in Hardware Store**
  - **Percent of Shrinkage**

# What GSA Will Do For USMC Bases

- **GSA is the expert in the supply field**
- **Will visit and consult to develop a customized solution**
- **Provide all IT support - Free**
- **Will recommend non - GSA solution if best for the Base**
- **Provide volume supply support at 0% mark-up**
- **Advise on best supply practices from DoD bases world-wide**

# Tying It All Together:

## Achieving Strategic and Operational Alignment

# Three Main Ways to Ensure Strategic and Operational Alignment

- **Align operational level performance measures with the strategic goals and objectives**
- **Align the Individual Job Goals of each member of the workforce with the strategic goals and objectives**
- **Align resources with the strategic priorities**

# Cascading the Strategy To Achieve Strategic/Operational Alignment

**Corporate**

| Strategic Theme | Goal/Objective | Measures | Target |
|---|---|---|---|
| Support Combat Readiness | Strengthen Deployment Support | • Percent of Deployment Timeframes Met | 100% |

**Department**

| Strategic Theme | Goal/Objective | Measures | Target |
|---|---|---|---|
| Support Combat Readiness | Strengthen Deployment Support | • Percent of Deployment Timeframes Met<br>• Percent of Outbound Freight Movement | 100%<br>100% |

**Division**

| Strategic Theme | Goal/Objective | Measures | Target |
|---|---|---|---|
| Support Combat Readiness | Strengthen Deployment Support | • Percent of Deployment Timeframes Met<br>• Percent of Outbound Freight Movement Deadlines Met<br>• Average Shipping | 100%<br>100%<br>1.5 days (Pri 1) |

# Operational Performance: What to Measure?

- **There are literally hundreds of things in a Base operation that can be measured – only a small fraction are important.**
- **Which measures are important?**

  ➔ **Measures of what is most important to the customer**

  ➔ **Measures of the core outcome**

  ➔ **Measures of actions <u>at</u> <u>all</u> <u>levels</u> that affect strategic progress**

# Tying It All Together – Using the Balanced Scorecard to Align Operational Performance with the Strategy

- **The Operational Performance Equation:**

  **COST: OPERATIONAL PERFORMANCE**

- **Use ABC/M and Process Management to Reduce Cost While Improving Performance.**

- **For Each of the 37 Processes:**

  ➔ **Identify the activities which are "most important" strategically and "most important" to the customer**

  ➔ **Develop and report unit cost and operational performance metrics for those "most important" items on the Division-level BSC**

# Tying It All Together - continued

- **Each division-level scorecard has operational-level metrics in these objective areas:**
  - ➔ **Work process – cycle time or response time**
  - ➔ **Unit cost**
- **Examples:**
  - ➔ **TSR cycle time and cost/TSR**
  - ➔ **Repair ticket cycle time and cost/ticket**
  - ➔ **PALT and cost/transaction**
  - ➔ **Shipping time and cost/package**
- **These metrics roll-up to the Corporate level and are *indexed* to accommodate the basic differences in the metrics**

# Align the Workforce with the Balanced Scorecard

- **Performance Measurement Changes Behavior**
- **Align individual job goals with scorecard targets**
- **Tie annual incentive award program to achieving the targets**
- **Examples:**
  - **Workplace Safety**
    - **76% Fewer accidents in linked group – hit BSC target**
    - **38% Fewer accidents in non-linked group – did not hit BSC target**
  - **Fleet Availability**
  - **Inventory Shrinkage**

# Align Resources on the Strategic Priorities

- **Identify the Strategic priorities that are “in the red”**
- **Fund implementation at the expense of lower priorities if necessary**

# Questions?